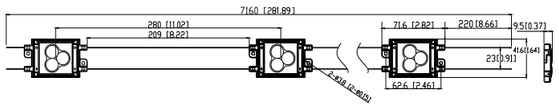
修订					
版本	标记	处数	内容	日期	变更者
V1	⚠1	7	1.自备物件：增加自攻螺丝ST2.9; 2.模组安装步骤：第4步增加打螺丝步骤; 3.常见故障及排查方法整体修改； 4.注意事项内容整体修改； 5.警告语整体修改；6.质保申明调整;7.申明修改.	2013-03-01	肖云强

Model No.& Specifications:

Model No. :	M903LB
Rated Power (W/piece):	1.2
Working Voltage (V DC):	12
IP Code:	IP66
Operating Temperature (℃[°F]):	-25~+60[-13~+140]
Storage Temperature (℃[°F]):	-25~+70[-13~+158]

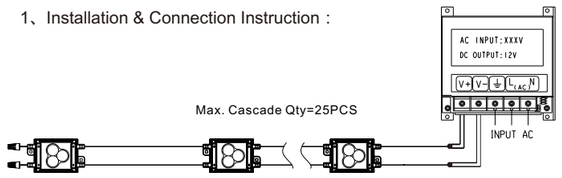
Profile:

Unit : mm [in]



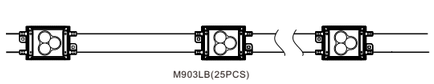
Parts & Tools:

1、Installation & Connection Instruction :

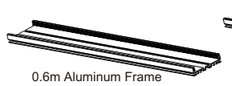


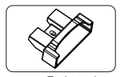
2、Parts&Tools:

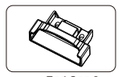
1、Modules & Accessories

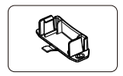


2、Optional Accessories (Need be ordered)









3、Self-provided Installing Tools & Materials

Cutting nipper,Electrical Drill & Drilling Bit

Self-tapping Screw ST2.9

Application Examples:

1、Layout of light box

Case For Reference

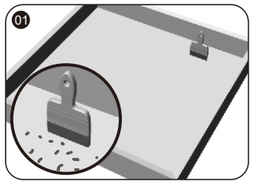
Thickness of Light Box (mm)	Distance between Modules(mm)	Installing Density (pcs/m²)	Illumination Scope (lux)
dz=80	dx=dy=110	83	2900-3000
dz=100	dx=dy=140	51	1600-2000
dz=120	dx=dy=175	33	1200-1600
dz=150	dx=dy=220	21	850-1000
dz=180	dx=dy=220	14	600-700

Remarks :
1、Tested with the vinyl cloth of light box which have the picture，and the transmittance is about 30% in the white area.
2、The above illumination is the minimum data when the surface illumination is uniform under this thickness.
3、The above data was tested by the modules which the CCT of LED is 6000K.
4、All the above data is for reference only.

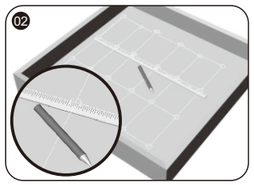
Light Box Application Example

Installation Steps

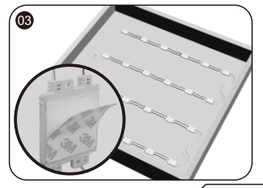
1、Modules Installation (No optional accessories)



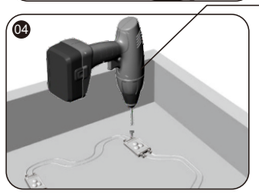
● Clean the installation surface.



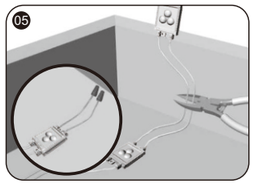
● Mark the installation position for the modules.



● Peel off the release paper of double adehesive tape in the backing of modules and stick modules on the installation surface for preliminary mounting.

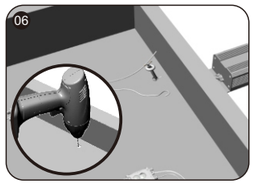


● Adjust the modules to the best installing position，then，press the modules tightly and fixed it with self-tapping screws ST2.9. (Please base on the thickness of light box to select the size of self-tapping screw.)



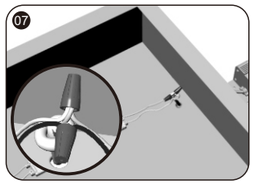
● Cut off the excessive modules. Please do the insulation for the ending wires with the terminals or other method.

⚠ Note: Please cut from the middle of wires between modules.



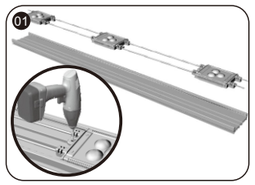
● Drill a hole in appropriate location with an electrical drill, cross the cable of power supply through the hole, then, fix the cable and protect it well.

⚠ Note: Drill a hole with proper force, otherwise, the panel of the light box might be broken easily due to the big force.

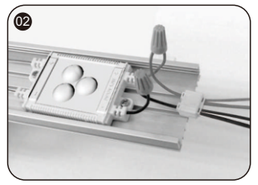


● Please ensure the anode and cathode of wires in the first module are connected with the cable of power supply correctly.

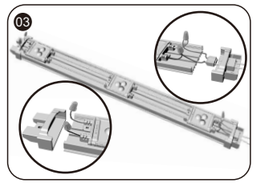
2、Assembly and Installation for Modules with Aluminum Frame



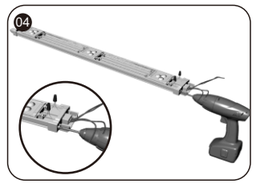
● Mark the position for the modules on Aluminum Frame, then, peel off the backing paper of double adhesive in the modules and stick modules on Aluminum frame, and then fix the modules with self-tapping screws(ST2.9*6).



● Connected the module's wires to the connector correctly. (Make sure the color are same for the connecting)

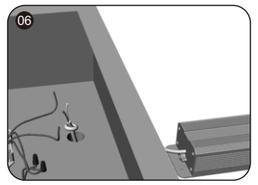


● Cross the wires of connector through the hole of end cap 2, then, assemble the end cap 1 and the end cap 2 to Aluminum frame.



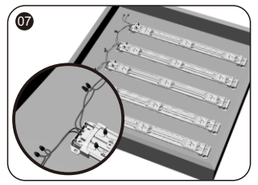
● Fasten the end caps to Aluminum with self-tapping screws (ST.2.2*8).

● Mark the installing location for #1 & #2 fixing buckle inside light box and fasten it with self-tapping screws (ST2.9*10).



● Drill a hole in appropriate places, cross the cable of power supply through the hole, then, fix the cable and protect it well.

⚠ Note: Drill a hole with proper force, otherwise, the panel of the light box might be broken easily due to the big force.



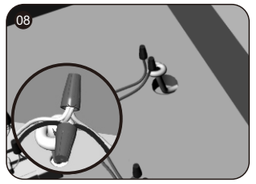
● Put Aluminum frame into #1 & #2 fixing buckle, then, connect the adjacent wires with the terminals according to the color of wires.

备注：
1.尺寸：385*210mm；
2.材质：80g书纸；
3.公差：±1mm；
4.灰度双面印刷；
5.虚线不印刷，来料必须从虚线处折好；

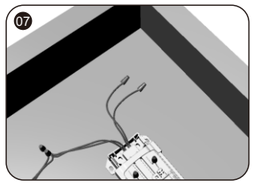
说明书反面

深圳市日上光电股份有限公司 RISHANG OPTOELECTRONICS CO.,LTD.						
零件名称	启明星二代M903LB说明书（英文无LOGO）	设 计	肖云强	日期	2013.03.01	表面处理
零件编码	308-01-107	审 核		日期		重 量
图纸编号	RD-M903LB-BZ027	标准化		日期		比 例 N/A
页 数	共 2 张 第 2 张	批 准		日期		单 位

修订					
版本	标记	处数	内容	日期	变更者
V1	⚠1	7	1.自备物件：增加自攻螺丝ST2.9; 2.模组安装步骤：第4步增加打螺丝步骤; 3.常见故障及排查方法整体修改； 4.注意事项内容整体修改； 5.警告语整体修改; 6.质保申明调整;7.申明内容修改	2013-03-01	肖云强



- Please ensure the anode and cathode of wires in the first module are connected with the cable of power supply correctly.



- Cut off the excessive modules. Please do the insulation for the ending wires with the terminals or other method.

⚠1 Note: Please cut from the middle of wires between modules.

Remark :
The above installing method is for the standard cascade. The maximum cascade qty should not more than 25pcs. If the qty of modules is more than 25pcs, please repeat the installing steps on the above.

Caution:

1、Caution for installing & using:

1.1 Please check and ensure that the anode & cathode for the module's wires are connected to power supply output's anode & cathode accordingly. Otherwise, the product can not work normally.

1.2 Double side adhesive tape is only used for preliminary fixing.Please use the screws or the neutral silicon sealant to fasten the modules,otherwise, there will be caused defects such as product shift, fall off and so on.

1.3 The standard cascade quantity is 25pcs modules. The maximum cascade quantity is 25pcs modules under single-end power feed and 50pcs modules for double-end power feed, prohibited to exceed this limitation in the actual using.

1.4 Please dispose the exposed wire and the joints with insulation, waterproof and anti-corrosion.

2、Cautions for others parts selected:

2.1 Please ensure that the output voltage for the using power supply are 12±5%V DC, and the rated power must be reserved 20% than the actual loading.

2.2 The using power supply must pass safety certification which have the protect functions in short circuit, over voltage and over current.

2.3 During the installing, please ask the qualified persons to count and select the suitable cable according to the diameter and length when the connecting cable need be extended, otherwise, there will be caused low input voltage to product, or fire hazard due to the cable too hot.

Malfunctions & Solutions:

Malfunction & Solution Table

Malfunctions	Possible Causes	Solutions
All LED don't works	1.The power supply didn't connect to the power grid.	Power on.
	2.The power supply is auto protected because the output is short circuit.	Remove the malfunction and power on again.
	3. Wrong connected for the wires of modules.	Check the connecting and ensure the wires are connected correctly.
Part of LED don't work	1.No output form part of power supply.	Check the power supply and remove malfunctions.
	2.The part of modules wrong connected to the power supply.	
	3. The wires for some modules are connected reversely.	Connect the wires rightly.
Brightness of the LED is dim or not even	1.The loading of power supply is overloaded.	Use more supplies or replace it with high power supply.
	2.The line losing of the power supply's wire is too big.	Make sure the operating voltage of the modules is inside of ±5% standard voltage.
	3 Modules cascaded too many per the strings.	Lessen the cascaded qty for the modules and ensure the quantity for each electrical circuit are within the maximum cascade quantity which allowed.
LEDs are blinking	1.Poor contacted in the joints.	Find out the malfunction and remove it immediately.
	2.Failures in the power supply.	Replace the power supply.

⚠ Warning:

- Prohibited to disassemble, modify this product.
- Prohibited to operate the product during power on.
- Prohibited to use any organic chemical solvents to contact this product directly or indirectly.
- Installation、repair、maintain must be operated by the professional persons.Prohibited to operate it by the unprofessional persons.
- If the modules don't fasten with the screws, you can use the neutral silicon sealant to fix it. During the using, please don't seal the light box until the silicon is solidified fully. Prohibited to use any acid or alkalinity adhesive to fix the product. Please pay attention to the silicon sealant don't stuck the surface of the lens.
- This product will generate the heat during working. Please consider the installing density for the modules and use the materials with good heat dissipation.

Warranty:

- Warranty：5years or 22000 hours，whichever come first.

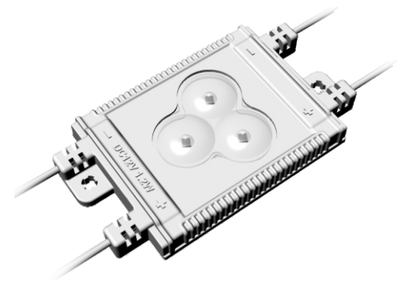
Additional Remarks:
The warranty period in the above refer to the product used in the inside of light box with waterproof.

Declaration:

- If the external flexible cable of light box is damaged, please replace it by the manufacturers or theirs service agent or the qualified persons to avoid a hazard.
- The given data in this manual is based on our standard product. There may be existed varies with the actual delivery products. Please subject to the measure data for the actual product.
- All illustrations in this user manual are for reference only. Please subject to the received goods.
- The product subject to change or modify without prior notice.

Venus Series LED Modules User Manual

M903LB



Please carefully read this manual before using our products and keep it properly

V1.0

备注：
1.尺寸：385*210mm；
2.材质：80g书纸；
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5.虚线不印刷，来料必须从虚线处折好；

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FM-WI-7-18-01